

GOAL 2: Clean and Safe Water

Protect, sustain or restore the health of people, communities, and ecosystems using integrated and comprehensive approaches and partnerships.

The Region 10 Water Program's mission is to restore, maintain and enhance the overall quality of the Region's water resources in order to protect the health and diversity of the environment for present and future generations. Our environmental objectives are to:

- Protect diverse ecosystems and ensure healthy watersheds;
- Safeguard human health through vigorous protection of ground and surface water and drinking water sources;
- Prevent and minimize the discharge of pollutants to land, air, water;
- Promote stewardship for the Region's water through education and public involvement.

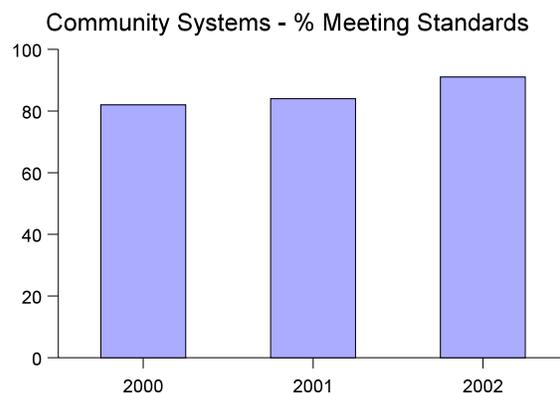
Objective 2.1: Protect Human Health. Protect human health by reducing exposure to contaminants in drinking water (including protecting source waters), in fish and shellfish, and in recreational waters.

Sub-objective 2.1.1 Water Safe to Drink. By 2008, 95 percent of the population served by community water systems will receive drinking water that meets all applicable health-based drinking-water standards through effective treatment and source water protection. (2002 Baseline: 93.6 percent of population; note that year-to-year performance is expected to change over time as new standards take effect.)

Current State/Major Problems to be Addressed:

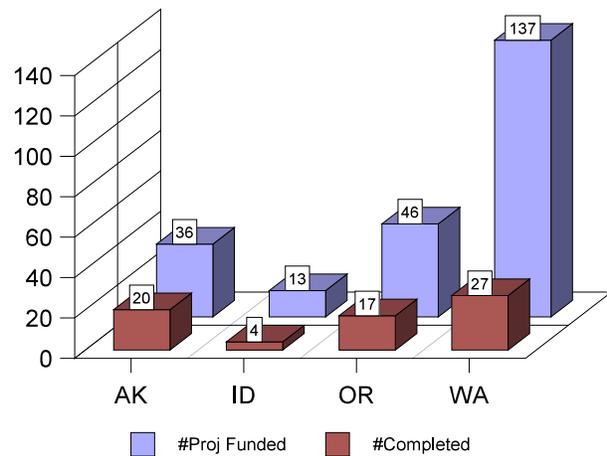
DRINKING WATER SYSTEMS: All four states in Region 10 have primacy for implementing the drinking water program. Currently, 91% of the Region 10 community water systems are meeting all health-based standards. The recent trends over the past three years show a continuous improvement and are portrayed below.

Small Systems Compliance: Currently (based on FY2002 data) the percentage of small community water systems (serving less than 3300) meeting all health-based standards is less than that for large community water systems (serving more than 3300). This is the case for all four states. Overall, the compliance rate of large systems for FY2002 was 92% versus 85% at small systems. This difference is expected to continue as new rules are implemented.



In 2002, the State Revolving Fund provided 257 million dollars in assistance to utilities for improving their infrastructures. The total number of projects funded was 232 of which 68 have been completed. The state by state breakdown is portrayed on the right:

DWSRF

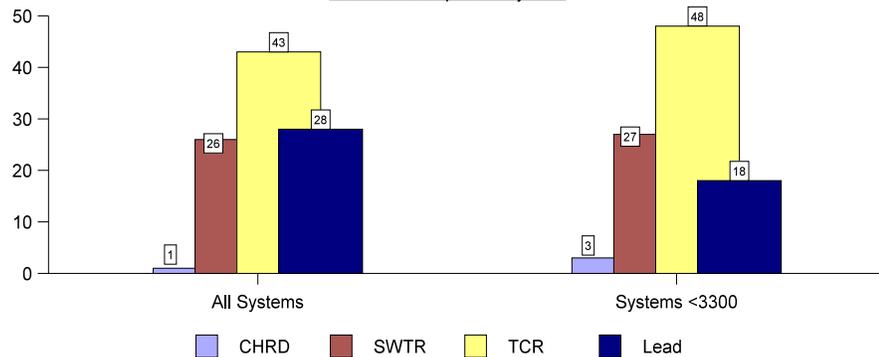


Major Challenges for DRINKING WATER:

- New rules are complex and could significantly impact small systems.** The new rules will present particular challenges to small water systems. The majority of systems in Region 10 are small (86% of systems serve less than 500 people) and these systems will need significant compliance, technical, and financial assistance to be in compliance with the new rules. For example, small water systems will for the first time be required to monitor for disinfection byproducts and may need to install treatment to reduce them. Also, many small systems will be required to install treatment for the first time under the arsenic and groundwater rules.

- Declining resources for states and tribes.** All states in Region 10 are facing significant budget reductions, which will limit their ability to implement the current and new drinking water rules. EPA is not

% In Non-Compliance by Rule



receiving any additional resources to fill the gaps. Tribes also face declining resources. EPA is responsible for implementing the program in Indian Country and we are not receiving sufficient resources to do this.

- Improved data management will increase the number of systems in noncompliance.** All four states are updating their data management systems. While this will provide better data, it will likely reveal an increase the number of systems in noncompliance and hence the GPRA goal will be more difficult to meet. Several states have not been reporting all the information required to EPA. When they do, we anticipate many systems will be in noncompliance.

- **Need to increase resources targeted toward homeland security.** All states and water utilities are targeting additional resources for homeland security. While this is necessary, it also takes away resources from the core program. EPA has provided some funding to the states for homeland security, but this is not enough to meet their needs. EPA will provide some funding to Tribes soon for homeland security activities. In addition, water utilities have devoted significant resources to improve security at their facilities and this has taken resources away from making other system improvements.

Current State/Major Problems to be Addressed:

SOURCE WATER ASSESSMENTS TO PROTECT DRINKING WATER: Source water assessments consist of four steps: delineating the sources of drinking water, inventorying potential contaminant sources, determining susceptibility and making results available to the public. Projected completion dates for the Region 10 states source water assessments: Alaska - June 2004; Idaho - April 2003; Oregon - July 2005; Washington - October 2003.

State SWAP Status through Sept 30, 2002:

	Alaska	Idaho	Oregon	Washington
Total No. of CWSs	432	711	818	2288
Step 1 Delineation	183	678	565	2112
Step 2 Source Inventory	109	659	479	2112
Step 3 Susceptibility Determination	100	611	139	2112
Step 4 Public Availability	91	558	139	0

TRIBAL SWAP PROGRAMS: Region 10's goal: By 2005, 40% of the population served by tribal community water systems will receive their water from systems with source water assessments in place and where needed, source water protection programs in place. Currently, 12% of the population served by tribal community water systems in Region 10 receive their water from systems with source water assessments in place.

Nineteen (19) water systems located at 7 of the Region 10 tribes have completed a source management plan for their protection efforts. These 19 water systems serve 10.8% of the population served by tribal community water systems. Additionally, 5 of these systems have completed a contingency plan for their protection efforts. These 5 systems serve 4% of the tribal pop. served by community water systems.

Major Challenges for SOURCE WATER PROTECTION:

- **Limited resources to implement Source Water Protection.** All four of the Region 10 states are scheduled to complete their assessments (although some will be done later than originally planned). The next phase of expected activity is source water protection. However, funding for protection activities is not provided by Congress. The states may choose to take some of the SRF (state revolving fund) set-asides, or use Clean Water Act or other funding for protection activities, but it will be the states' discretion to decide whether the money will be used for source water protection or other competing needs.
- **SWAP in Indian Country.** Though SWAP is strongly encouraged, it is not required for tribes. As a result, source water areas on tribal lands may not be evaluated, and it may be difficult to assess whether drinking water for tribes is protected. Many tribes in Region 10 have chosen to work on SWAP, but not all have done so. Region 10 staff and a technical service provider funded by Region 10 encourage tribes to work on SWAP by providing funding or technical assistance.

Current State/Major Problems to be Addressed:

UNDERGROUND INJECTION CONTROL PROGRAM: One objective of the UIC program is to protect source water areas. Below is the current number of UIC wells and sites that have been inventoried in the four R 10 states. Region 10 will continue creating an inventory of UIC wells and sites.

State Inventory

Region	State	Population (,000)	Area (sq. miles)	Class I HW Wells	Class I Other Wells	Class II Wells	Class III Sites	Class III Wells	Class IV Sites	Class V Wells
10	AK	627	615094	0	6	1068	0	0	0	2986
10	ID	1294	82286	0	0		0	0	0	7464
10	OR	3421	95930	0	0	2	0	0	51	40499
10	WA	5894	66642	0	0	1	0	0	0	31728

Status of TRIBAL UIC PROGRAMS: There are no Class I, II or III injection wells in tribal lands in Oregon, Washington, and Idaho. There are 325 class V injection wells on Tribal lands; two tribes have responsibility for 314 of these wells. Region 10 has identified 78 tribal facilities with >600 shallow Class V Injection Wells. The identified wells include some MVWDWs, large capacity septic systems, and storm water drainage wells. Follow-up inspections of large capacity septic systems and storm water drainage wells have been conducted in source water areas. Recent inspections on tribal lands have identified concerns at approximately 25% of the locations inspected.

Major Challenges for UNDERGROUND INJECTION CONTROL:

- **Lack of resources.** States are in budgetary turmoil. EPA has limited funds to provide to states. As a result, states can only devote 0.5-1 FTE for their entire state programs. The lack of resources at the state level has made it difficult to conduct compliance assistance, inspections, and enforcement in their UIC programs. Region 10 has direct implementation responsibility in Alaska and for the Tribal UIC program.

- **Storm water disposal Phase II permits shifting to UIC.** Storm water disposal Phase II permits are in the process of being submitted. Several cities have expressed concern that permit limits may be too costly and that injection of storm water may be a more economically feasible alternative. Therefore, it is possible that the number of UIC Class V wells may increase in the near term.

Strategy Highlights:

Strategies	Tools & Programs	Measures & Targets
<p>Maintaining a strong Drinking Water Program</p> <ul style="list-style-type: none"> • Increase capacity of states and water utilities to implement drinking water program • Increase capacity of tribes to implement programs 	<ul style="list-style-type: none"> -Meet quarterly with States to discuss status of program -Provide funding via the Drinking Water State Revolving Fund and Rural Utility Services to utilities for infrastructure improvement. -Develop partnerships with third-party service providers -Conduct trainings for States and water utilities on new rules -Provide resources and guidance on homeland security for states and water utilities -Provide resources to tribes to develop tribal utilities to effectively manage programs. Provide resources via the Tribal Set-aside funds for tribes to build infrastructures. 	<ul style="list-style-type: none"> - Compliance with drinking water standards -Percent of population meeting health-based standards at community water systems - # community water systems in non-compliance - # trainings
<p>Active Source Water Protection Program</p>	<ul style="list-style-type: none"> - Support state programs to complete source water assessments. Encourage development of source water protection programs. Grants for assessments. - Work with tribes to encourage development of SWAP programs. Region 10 provides grants to a technical service provider and directly to tribes (recipients selected competitively). EPA provides technical assistance directly to the tribes and/or ensures coordination between the tribes and the technical service provider 	<ul style="list-style-type: none"> - # States with Source Water Assessments - # States with Source Water Protection Programs - # Tribes with Source Water Assessments -# Tribes with Source Water Protection Programs

Unique Regional Issues / Problems	Tools & Programs	Measures & Targets
Underground injection Control	-Direct implementation in Alaska -Direct implementation in all Tribal Lands - Grants to States & Tribes	-% of Class I & II wells above baseline that maintain mechanical integrity (Baseline in 2004) -% reduction in Classes I, II, III and V with significant violations from the base % of inventoried wells - %of Class I, II & III wells with significant violations handled in a timely and appropriate manner
Significant number of small DW systems and large number of tribal systems	Small system guidance documents. Trainings for small systems. Work with third party service providers to work with small systems and tribes. Increase use of enforcement when necessary to bring systems into compliance	- Increased compliance for small systems including tribal systems - # Tribal systems monitored - # Tribal systems meeting standards
Funding source water protection for surface water sources of drinking water	Section 1452 (k)(1)(D) fund is for “wellhead protection” currently. If this fund could be renamed for “source water protection,” it would open up a pot of available money to the states to implement their source water protection programs for all sources of drinking water.	
Recent EPA staff turnover for UIC	Training and transfer of knowledge from former staff and other regions	
Direct implementation of UIC program in Alaska and all Tribal areas		
Alaska. The lack of roads in Alaska and difficulty in getting to communities makes it very difficult and expensive to provide compliance and technical assistance	Additional resources for travel to rural Alaska. Educational information targeted toward rural Alaska	Increase in compliance of Alaska Native Villages.

Relation to Regional Priorities: The drinking water program is involved in the Regional priority to improve the health of tribal members. We have a very active program with the tribes in the Pacific Northwest and Alaska. Our goal is to improve tribal drinking water by protecting their source water, conducting monitoring to determine the quality of the water, and installing treatment when necessary. We provide more than \$10 million per year to improve drinking water and wastewater systems for tribes in the Pacific Northwest and Alaska via the Drinking Water Tribal Set-aside program. We have an active program to train operators for tribal systems in the Pacific Northwest and have an active circuit rider program for the tribes.

Region 10 is working closely with tribes to encourage development of SWAP programs. SWAP programs will help the tribes to better understand where their drinking water comes from and with that understanding, they will be able to develop programs to protect their sources of drinking water, and therefore public health.

The Tribal UIC Program is working closely with tribes to ensure that UICs are registered and that they are not contaminating underground sources of drinking water. In Region 10, all Tribal UICs are Class V wells. The identified wells include MVWDWs, large capacity septic systems, and storm water drainage wells. Follow-up inspections of large capacity septic systems and storm water drainage wells have been conducted in source water areas. Recent inspections on tribal lands have identified concerns at approximately 25% of the locations inspected.

Sub-objective 2.1.2: Fish and Shellfish Safe to Eat. By 2008, improve the quality of water and sediments to allow increased consumption of fish and shellfish as measured by the strategic targets described below.

Current State/Major Problems to be Addressed: Relative to other EPA regions, Region 10 has few fish consumption advisories. However, the number of advisories increased from 25 in 2000 to 29 in 2001. Oregon, with 15, had the highest number of fish advisories in 2001 (up 2 from 2000). Washington had 13 (up 1 from 2000), and Idaho had 1 (up from 0 in 2000). Most advisories were due to elevated mercury in resident fish tissues, although isolated cases of PCB and toxic blue-green algae are also noted.

Information on shellfish bed closures is currently unavailable.

- Water quality criteria designed to protect human health are based on risk factors associated with average levels of fish consumption. Certain cultures, particularly Native Americans, consume fish in significantly greater quantities and hence may have higher risk levels. A concerted effort has been underway to determine safe fish consumption levels and appropriate water quality criteria for populations with high fish consumption rates.
- Puget Sound and Oregon coastal estuaries (e.g., Nooksack River, Tillamook River) with significant shellfish resources have been contaminated with runoff from nearby dairy farms. A concerted state/federal enforcement presence has been necessary to help control levels of fecal coliform and pathogens.

Strategy Highlights:

1. **New mercury criterion** EPA recently issued a criteria document under the Clean Water Act identifying the safe levels of mercury in fish tissue. The Region will assist states and tribes in adopting the new mercury criterion into state and tribal water quality standards.

2. **Upper Columbia Basin Sediments Survey** Findings of metals and dioxin contamination in sediment and fish, followed by fish consumption advisories, led local citizens to press Congress to appropriate funds to EPA to develop a water quality management plan for Lake Roosevelt. Ultimately, Congress provided over \$1 million for the project and EPA dedicated additional funding.

Funds have been used for sediment analyses; fish tissue analyses; retrospective studies of watershed characteristics, fisheries, limnology, and toxic contaminations; limnological work; fish consumption surveys; public involvement; and development of a management plan. Currently, work is underway to complete the Upper Columbia River Sediment Contamination Study.

3. **CAFO compliance strategy:** Contamination of shellfish beds by runoff from confined animal feeding operations has led to an increase in compliance activity at targeted sites in Puget Sound. Targeted inspections and enforcement actions at near-shore CAFO sites near or adjacent to commercially harvested shellfish beds.
4. **Columbia Basin Fish Contaminant Survey** This survey, completed in 2002, found that risks of health effects are 8 times higher among tribal members due to increased fish consumption. The information acquired from the survey will be used to determine means for reducing levels of persistent bioaccumulating contaminants.

Relation to Regional Priorities:

This sub-objective aligns well with the Region's priorities for improving the health of the Columbia River Basin and for improving the health of the environment and residents of Tribal lands. The work completed on the Columbia Basin Fish Contaminant Survey provides a base of information for managing fish consumption and potentially sources of persistent bioaccumulating compounds. The Upper Columbia River Sediment Contamination Study, now underway, will provide better information on sources of contamination that may be flowing into Lake Roosevelt from Canada.

Sub-objective 2.1.3: Water Safe for Swimming. By 2008, restore water quality to allow swimming in not less than 5 percent of the stream miles and lake acres identified by states in 2000 as having water quality unsafe for swimming. (2000 Baseline: approximately 90,000 stream miles and 2.6 million lake acres reported by states as not meeting a primary contact recreational use in the 2000 reports under section 305(b) of the Clean Water Act.)

Current State/Major Problems to be Addressed: The national program focuses on coastal beaches for recreational use. In Region 10, coastal beaches receive relatively little primary contact recreational use (i.e., swimming); that primarily occurs in lakes. Protection of the swimming use still will occur with the use of revised standards criteria under BEACHES. A more appropriate measure would be freshwater swimming beach closures.

Objective 2.2: Protect Water Quality. Protect the quality of rivers, lakes, and streams on a watershed basis and protect coastal and ocean waters.

Sub-objective 2.2.1: Improve Water Quality on a Watershed Basis. By 2008, use both pollution prevention and restoration approaches, so that:

WATER QUALITY STANDARDS:

Current State/Major Problems to be Addressed: All states have primacy for water quality standards. Three of the Region's four states are working on their "triennial" review; all four states have sent packages to EPA for final action. Five tribes have EPA-approved water quality standards and one Tribe has federally-promulgated water quality standards. One tribal standards package is under review, and two more await our attention, with more on the immediate horizon.

- **Standards backlog:** Timely EPA approvals are more difficult than ever. Water quality standards are recognized now as being central to TMDLs and permits, and to water quality protection in general. Consequently, industry and interest groups are focusing more attention on water quality standards. More standards approvals are triggering lawsuits, causing EPA to develop more thorough approval documents, which takes more time, as well as diverting resources away from other actions. Addressing the standards backlog is an important EPA priority.
- **ESA Consultation Backlog:** Each EPA approval requires consultation with the Services on the impact of the action on threatened and endangered species. Because of the prevalence of salmonids, almost every action in WA, OR and ID requires consultation. Consultations to date have identified two major challenges. One, the Services are understaffed to participate in consultations. Second, consultations to date have raised issues that identify major issues not easily resolved at the regional level. This combination has resulted in a growing ESA backlog of incomplete ESA consultations.
- **Growing Tribal Workload:** Many tribes now understand the value of having tribally adopted and EPA approved water quality standards. This is resulting in a growing demand for technical assistance and a large number of tribal standards packages to review (in draft) and take final action, along with related TAS issues. Tribes have a lot of interest in (and generally strong support for) Federally promulgated core tribal water quality standards.

WATER QUALITY MONITORING:

Current State/Major Problems to be Addressed:

- **Limited resources to monitor all water bodies.** Monitoring water quality requires a large amount of financial and staff resources. In Region 10, each state has thousands of water bodies which require monitoring. However, because of limited resources, we cannot obtain water quality information on every water body segment. Much of the ongoing monitoring is in priority watersheds, those watersheds that may be impacted or that have special significance for environmental or political reasons. Thus, Region 10's monitoring is limited and coverage is incomplete. States in Region 10 are beginning to use probabilistic designs to ensure that their monitoring answers large scale questions. We have focused monitoring efforts primarily in rivers, streams and estuaries with limited monitoring in lakes and wetlands. Region 10 has identified limited resources for monitoring as a national problem. The President's 2005 budget proposed \$20 million in additional monitoring resources. If passed by Congress, these resources will help, but not solve, the monitoring resource problem.

- **Monitoring tools may not address Alaska's unique environment.** Alaska is the largest state and has the largest number of water body segments in the country. However, resources are few, and GIS coverage in the state is limited at best. Alaska has a large number of ecosystems, such as permafrost, and it is unclear whether monitoring methods developed in the continental U.S. are applicable for ecosystems in Alaska. In 2004, we will be working with Alaska to conduct monitoring in the Yukon basin that will test EMAP design and indicators developed in the lower 48 states for use in Alaska.

TOTAL MAXIMUM DAILY LOAD (TMDL): From 1991 through 2003, Region 10 has completed 1545 TMDLs. TMDLs are the first step in determining by how much pollutant levels must be reduced to meet water quality standards. One TMDL has been written to support a trade, a second is underway, and a permit based on water quality trading is in development.

Current State/Major Problems to be Addressed:

- **No tracking exists for how pollutant reductions will meet water quality standards.** While Region 10 has a system in place to review, approve, and track TMDLs, no feedback loop exists for how TMDLs are implemented and whether reducing pollutants has achieved water quality standards. TMDLs provide the first step in watershed restoration by providing a watershed analysis and recommendations to limit pollutant loads to meet water quality standards. However, no federal regulations exist for EPA or the states to implement reductions for non-point sources recommended in TMDLs. The 305(b) list reports on the general condition of watersheds; however, this is an indirect means to relate water quality health and pollutant reduction. We have not directly tracked whether reducing pollutant levels has resulted in attaining standards. Because of limited resources, we have focused the TMDL program on completing TMDLs as required by court orders, settlement agreements, and consent decrees.
- **TMDL Implementation is not uniformly tracked.** Although states are not required to monitor and report on TMDL implementation activities, this information is critical to understand why we are or are not seeing water quality improvements after a TMDL is adopted. For example, if water quality does not improve, is this due to implementation problems or a failure of the TMDL itself? We need a way to map out the actions that are needed to achieve pollutant reductions – what, who and when – in order to track whether things are getting done. This information is particularly important in Region 10 where most water quality problems are related to non-point source pollution, and will take years, if not decades, to correct.

Specifically, many of the non-point source pollution problems are indicated by the numerous temperature impairments. Temperature impairments are widespread in our region and negatively impact salmon species dependent on cold waters. There are numerous sources of temperature impairments that often require long time frames to show meaningful water quality results. If we wait until meaningful water quality data are available to indicate whether things are getting done or not, it may result in unnecessary delay and lost opportunities to correct problems.

- **Uncertainties in Monitoring.** Since there is no centralized database for monitoring, it is difficult to know the degree of monitoring conducted by states and tribes. While reporting requirements exist for 305(b) and 303(d) lists, and monitoring data are necessary to complete TMDLs, there is no consistent monitoring program to evaluate whether impaired waters improve after a TMDL is completed. Monitoring and implementation may occur at the state, county, and/or local level, but there is no centralized effort to collect information, and a baseline is not currently available to gauge progress in tribal and state lands.

NONPOINT SOURCE CONTROL PROGRAM: Recognizing that non-point source pollution is a major contributor to the region's water quality problems, Region 10 has developed 3 approaches to managing nonpoint sources: EPA programs, geographic targeting, and industrial sectors. The EPA programs that are associated with non-point source control include the 319 grant program, the Clean Water State Revolving Loan Fund, the National Estuary Program (NEP), and the Coastal Zone (CZARA) program. All 4 states have approved nonpoint source control plans, and 319 grant money is being directed at state priorities as outlined in the plans. The 4 CWSRF programs have been modifying their programs to allow funding for more nonpoint source control projects, and Region 10 has been actively promoting this with our states and local stakeholders. The 3 NEPs in our region are currently in the implementation of their Comprehensive Conservation and Management Plans (CCMPs). With regard to CZARA, none of our 3 affected states have approved CZARA programs.

We have continued to expand our geographic targeting approach (see goal 4), which combines all sectors and programs in a geographic area, e.g., the Columbia Basin. To deliver our sector approach, we have identified 4 major industrial sectors: forestry, agriculture, mining, and oil and gas.

Current State/Major Problems to be Addressed:

- **CZARA programs may not be approved by the deadline.** CZARA programs that implement nonpoint source management measures (similar to best management practices) need to be developed in Alaska, Washington, and Oregon. If programs are not approved by the deadline, the CZARA statute requires that nonpoint source funding under 319 and coastal zone money (managed by NOAA) be withheld. Currently, we are reviewing the state submittals, and questions have arisen regarding agriculture, forestry, and urban management measures. In addition, one of the states is having difficulty getting a legal opinion regarding the state's authority to enforce management measures, which is a requirement for approval. States are very concerned about having a reduction in their 319 funding, especially in the climate of declining state budgets.
- **Implementation of nonpoint source controls is difficult without an enforcement mechanism or a strong incentive program.** EPA does not have direct authority to implement nonpoint source controls. Partnerships with state and other federal agencies have not always resulted in direct enforcement to curb water quality problems.
- **Funding and technical support decisions are not necessarily based on a prioritization of watershed needs.** Federal, state, and local funding sources are not well coordinated to support the highest priority watershed work. Consequently, it is likely that funding is not being directed at the most critical limiting factors. As a result, it is difficult to get measurable results in the field. We are planning to identify funding tools, and with partners, develop integration strategies that leverage the most work for each dollar. Specifically, we will identify and promote use of Farm Bill monies to support nonpoint source pollution control.
- **Monitoring and evaluation tools are needed to implement adaptive management.** See water quality monitoring discussion above.
- **Forest and Range lands.** Close to half of the area in the EPA Region 10 States are managed as forests and rangelands. These lands are the watersheds that provide much of the drinking water. They also provide high quality habitat for salmon, trout, and a host of other Endangered Species Act (ESA) listed aquatic and terrestrial species. The Forests and Rangelands Team is engaged in a number of collaborative efforts with the agencies that manage natural resources in the Pacific Northwest and Alaska to help ensure protection of water quality and the species and beneficial

uses these high quality waters support. These interagency efforts include participation on executive policy groups that establish direction, policy, and funding priorities for land management and restoration as well as on technical groups that pursue collective agency monitoring and assessment efforts.

Current State/Major Problems to be Addressed for NPDES Permit Program

Region 10 directly implements the NPDES permit program in Idaho and Alaska and within Indian Country in Oregon and Washington and for federal facilities in Washington. The NPDES unit has created a 3 year operating plan (i.e. CY2003-2005) that includes permits issuance, pretreatment, wet weather, biosolids, mining, oil and gas, NEPA compliance, and data management.

Issuance of Permits: Between 1998 and 2001, the Region 10 NPDES unit's permitting efforts resulted in 122 major facilities receiving new permits; 22 watershed were addressed; and 11 general permits were issued. In total, there were 3200 facilities in Alaska and Idaho covered by updated permits. The majority of the permits were focused in key industrial sectors and watersheds where Total Maximum Daily Loads (TMDLs) were targeted for completion. Region 10 met the national target of a backlog for major facilities of no greater than 10% by the end of 2001. The Region will continue to make progress toward achieving a 10% backlog of major and minor expired permits by the end of 2004

Pretreatment Program: Region 10's pretreatment program directly oversees the implementation of 14 approved municipal pretreatment programs in Alaska and Idaho. Additional programs may be approved for other cities in the future. The Region also directly oversees categorical industrial users discharging to POTWs without approved pretreatment programs to assure that they comply with the federal pretreatment standards that apply to them. Since Region 10 has delegated the pretreatment program to the States of Oregon, with 24 approved cities, and Washington, with nine cities, it oversees the state's implementation of the program in those states. Over the past three years, Region 10 has completed reviews of municipal legal authorities, including local limits, and has provided significant assistance to state and municipal pretreatment staff as well as to representatives of regulated industries. The Region is fulfilling the national goal of conducting audits and pretreatment compliance inspections on 50% of the municipal pretreatment programs each year.

Wet Weather Program Since March 2000, storm water staff have worked to educate the construction, industrial, municipal, state and tribal audiences regarding the various NPDES storm water permitting requirements. Reissuance of the Multi-Sector General Permit for industrial discharges in October 2000 resulted in Region 10 sending reapplication notices to over 1200 facilities throughout the region. Direct compliance assistance continues through email and telephone consultation. In terms of controlling Combined Sewer Overflows (CSOs), the Region has been focusing its attention on ensuring that the permits for CSO communities contain the nine minimum CSO controls as well as requirements to meet water quality criteria through the development and implementation of Long Term Control Plans. The Region has not focused on discharges for Sanitary Sewer Overflows (SSO), and expects to implement the Region's SSO compliance strategy in the future.

CAFOs: Region 10 has been successfully implementing a CAFO program for a number of years, and is committed to implementing the new CAFO regulations. A new CAFO general permit for Idaho is expected in 2004.

Mining: Rising metals prices and significant new ore discoveries in Alaska and Idaho is adding a substantial workload. All new mines which will have a NPDES discharge are also subject to compliance with NEPA. Therefore no permit can be issued until EPA has complied with NEPA, a significant challenge. Issuing NPDES permits for suction dredging operations (for gold) in Idaho, where many streams have endangered fish and are already water quality limited, is scheduled for FY 2004-5.

Major Challenges for NPDES Permit Program:

- **Volume and complexity of permittees.** Ten permit writers are responsible for over 2500 five year permits. The permits must be protective of water quality while balancing the increasing demands due to ESA and tribal consultation.
- **Increasing emphasis on wet weather.** The wet weather program includes: 1) the issuance of phase 2 storm water permits for medium size municipalities and a general permit for construction sites greater than 1 acre, 2) addresses water quality impacts from communities with combined sewer overflows (CSOs) and 3) identifies and addresses sanitary sewer overflows (SSOs).
- **New Regulations for Combined Animal Feeding Operations (CAFOs).** A new general permit is under development for CAFOs in Idaho that is in compliance with EPA national regulations.
- **New Mining Policies.** The 2002 definition of fill material, which now includes mine tailings and other wastes, presents a particular challenge in Alaska where it is often impossible to avoid affecting waters of the U.S. when building new mine facilities. The application of the NPDES effluent guidelines to tailings discharges, now also subject to regulation under 404, requires careful coordination between NPDES and 404 permitting authorities (i.e., EPA and the Corps of Engineers).

Strategies	Tools & Programs	Measures &Targets
<p>Strengthen the water quality standards program</p>	<p>- Develop regional temperature guidance. Guidance would address CWA and ESA needs and will address one of the most prevalent pollutants that affects the most widely listed species in the Pacific Northwest. States and Tribes that adopted criteria equivalent to the guidance would receive expedited CWA approval and ESA consultation.</p> <p>- National Consultation. R10 is relying on the national consultation with the Services to address issues raised regionally regarding the programmatic level water quality standards issues.</p> <p>-Meetings and Workshops for states and tribes with approved standards to discuss common issues. This helps build tribal capacity that can be shared with tribes still developing standards.</p> <p>- Standards Circuit Rider. The national program just expanded the TMDL circuit rider program to address standards issues.</p> <p>- Partnership with the states/tribes. Joint workload planning discussions can serve to improve the quality of standards submissions, deter inappropriate ones, and support triennial review timing.</p> <p>-Federally-promulgated core tribal water quality standards</p> <p>-Reduce ESA consultation backlog</p>	<p>-# of States and Tribes with improved temperature standards</p> <p># States & authorized Tribes that have completed a triennial water quality standards review within the past three years under Section 303(c) of CWA.</p> <p># Percentage of state/Tribal water quality standards submissions that are approved/dissapproved by EPA within 90 days</p>

Strategies	Tools & Programs	Measures & Targets
<p>Improve water quality monitoring</p>	<ul style="list-style-type: none"> -106 grants - lists of impaired waters - 305(b) or integrated reports -EMAP 	<ul style="list-style-type: none"> - States / Tribes with comprehensive monitoring strategy - # comprehensive integrated assessments of waters - # biological monitoring programs
<p>Develop effective watershed plans and TMDLs</p>	<ul style="list-style-type: none"> -Support state environmental agencies' review of designated management agencies' implementation plans. Specifically, support the evaluation of the management strategies and benchmarks within the context of TMDL load allocations and surrogate targets - Grants support to tribes and states. 319 and 106 grant funds. We also provide extramural funds for monitoring and to develop TMDLs for tribal and state waters. These supplemental funds enable states and tribes to complete watershed analyses and follow through with implementation by offering financial incentives and funds for staff to improve water quality. - Encourage tracking of TMDL implementation. Oregon is developing a TMDL implementation tracking system that will be used to track and report on implementation efforts in each TMDL basin. This system should be readily transferable to other states. - Technical support to tribes and states - EPA regulatory programs that implement TMDLs. Both the NPDES and Source Water Assessment and Protection Program work on implementation of surface and groundwater protection. - Water quality trading: R10 has been pursuing water quality trading for several years. We have gained a lot of experience and look to ensure the knowledge is shared between states and that we continue to be actively engaged in the national discussions. We will assist ID, WA and OR to launch a successful trading demonstration project. 	<ul style="list-style-type: none"> -conduct evaluation in 3-5 specific basins with approved TMDLs. -% of TMDLs that have been developed as part of a larger watershed planning process -TMDLs approved (or waters delisted) for not less than x% of the waters listed as impaired - x discharges have permits that provide for trading between the discharger and other water pollution sources. - # TMDLs that set up water quality trading

Strategies	Tools & Programs	Measures &Targets
<p>Implement effective nonpoint pollution control programs</p>	<ul style="list-style-type: none"> - Provide 319 funding to state agencies for priority nonpoint source projects - Provide 319 funding to state environmental agencies to work with state forestry and agriculture agencies to determine the sufficiency of existing management measures to meet TMDL load allocations - promote the development and implementation of watershed plans that meet 319 criteria - 319 grants to states and tribes - program reviews of 319 programs - Clean Water State Revolving Loan Funds - National Estuary Program funds - CZARA program - Technical assistance to other agency-led efforts, including the NOAA-Fisheries salmon recovery technical and policy teams, the Washington Timber, Fish, and Wildlife agreement, the Northwest Forest Plan, Northwest Power Planning Council and Bonneville Power Authority subbasin planning - EPA sector teams: forestry, mining, agriculture, oil and gas - Leveraging funding sources for nonpoint source control - Leveraging other agency efforts to improve watershed health - Geographic targeting of programs, resources 	<ul style="list-style-type: none"> # of nonpoint source implementation projects funded under 319 that report on estimated pollutant load reduction # determine sufficiency in 3-5 specific basins with approved TMDLs - the number of watershed-based plans (per 319 guidance), supported by the 319 program since beginning of FY 2002, which are: <ul style="list-style-type: none"> under development (target of 8/year), being implemented (target of 4/year), and substantially implemented (target of 4/year). # of nonpoint source projects funded under the CWSRF # of 319 grants focused on TMDL implementation # of CZARA programs approved Development of a priority plan for the Columbia River basin - the number of acres of wetlands restored

Strategies	Tools & Programs	Measures &Targets
<p>non-point pollution control continued</p>	<p>-FORESTRY:</p> <ul style="list-style-type: none"> - Ensure adequate riparian, fishery, and watershed protection on R10 forest and range land. -Participate on interagency executive groups to ensure that policies, direction, and natural resource management budgets are focused on watershed protection, restoration, and monitoring; - provide leadership to provincial and watershed based groups to ensure high priority watershed protection and restoration efforts are undertaken; - utilize NEPA/309 reviews to ensure that land management plans and that timber and rangeland projects adequately protect water quality and fish and wildlife resources; - develop partnerships with the Forest Service and BLM to assist in the development and implementation of TMDLs; - support interagency monitoring efforts; - review and comment on state rule makings and plans that apply to private forest lands to ensure consistency with the CWA and CZARA. 	<p>FORESTRY:</p> <ul style="list-style-type: none"> - consistent aquatic conservation strategies protective of water quality and species adopted and maintained for federal lands - # high quality land or water acquisitions -# high priority restoration projects in basins with 303(d) listed waters are undertaken with OWEB grants in OR; - review and provide input on Forest Service/BLM land management plan and project EISs to ensure adequate WQ/species protection;

Strategies	Tools & Programs	Measures &Targets
<p>Strengthen the NPDES permit program</p>	<ul style="list-style-type: none"> - Focus on NPDES permits that have the greatest benefit for water quality - Implement a R10 NPDES Comprehensive Plan for CY2003-2005 and 2006-2008. - Develop an annual plan for the review of permits in delegated programs. - Conduct a comprehensive review of the Oregon NPDES program in CY03-04. - Implement wet weather point source controls, including the storm water program - Develop and implement a SSO strategy - Develop and implement the general permit for CAFOs - Oversee approved pretreatment programs and categorical industrial users discharging to POTWs without approved pretreatment programs to ensure consistency with CWA and NPDES regulations - Conduct audits and pretreatment inspections of 50% of the approved programs each year 	<ul style="list-style-type: none"> - Each year, 95% of priority permits and 90% of all permits are issued or reissued within the 5 year statutory time frame. - % of communities with CSOs will that have developed and begun implementing Long Term Control Plans (LCTPs) - reduce pollution from municipal separate storm sewer systems -% of CAFOS that have NPDES permits with nutrient mgt requirements
<p>Effectively manage infrastructure assistance programs.</p>		
<p>Assist Tribes in protecting water resources</p>	<p>see next table</p>	

Unique Regional Issues / Problems	Tools & Programs	Measures & Targets
Tribal Issues: large number of Tribes in R10	R10 hosted a tribal standards academy in May 2001; it may be appropriate to sponsor another in 2006.	By 2008 increase the number of Tribes that have water quality standards approved by EPA to 33 (nationally)
ESA issues: Many ESA listings	Continued management attention and national level consultation	Size of ESA backlog
Water quality standards: Nutrients not as high a priority as Temperature	For now, heavy focus on temperature, lighter focus on nutrients; focus on nutrients to increase over next 3-5 years	States with nutrient plans; states with nutrient criteria or quantitative endpoints
Water quality monitoring in Alaska. Unique environment, large size, difficult access.	EMAP for Coastal areas is very important to R10 Rivers and Streams monitoring for the Yukon in 2004 will be critical to test tools developed in the lower 48 in Alaska.	

Relation to Regional Priorities: Region 10 staff have developed draft TMDLs for the Columbia Basin and Coeur d’Alene. This effort involved extensive modeling, community outreach, and coordination with tribes, states, and other stakeholders. These draft TMDLs are evaluations of the watershed and provide recommendations for how water quality standards can be met. The program also works closely with tribes to provide financial and technical support.

Sub-objective 2.2.2: Improve Coastal and Ocean Waters. By 2008, prevent water pollution and protect aquatic systems so that overall aquatic system health of coastal waters nationally, and in each coastal region, is improved on the “good/fair/poor” scale of the National Coastal Condition Report by at least 0.2 points on the “good/fair/poor” scale of the National Coastal Condition Report.

Invasive Species Control: By 2010, in cooperation with other nations, federal agencies, and states, tribes, and local governments, reduce the rate of increase in the number of invasions by non-native invertebrate and algae species of marine and estuarine waters. (2000 Baseline: rate of increase approximately 1 percent per year.)

COASTAL CONDITIONS: Substantial contaminated sediment problems in estuarine and fresh waters, including disposal/containment capacity and beneficial reuse/habitat restoration opportunities. Invasive Species problems ubiquitous throughout the region with over 130 in the state of Oregon alone. These include species that can have substantial adverse environmental and economic impacts.

Current State/Major Problems to be Addressed:

Region 10's approach generally follows national program, with special emphasis on the Columbia River, Coeur d’Alene Basin, and Puget Sound. For sediment/dredged material management, Region 10 initiated and co-leads Regional Dredging Teams for (1) States of Washington, Oregon, Idaho, and (2) State of Alaska. The RDT will oversee, facilitate and streamline federal projects and regulatory permitting for

navigation and commerce, aquatic habitat restoration, and environmental cleanup, by development of standardized evaluation and management procedures, and timely “issues” identification and resolution mechanisms. The RDT helps focus participating agencies’ priorities for sediment management activities and to resolve issues that may arise.

Region 10 states, particularly Washington, are leading the nation in passing legislation to develop ballast water regulations. This has created a demand for Regional assistance on ballast water issues.

Coastal Monitoring: Since 1999, the states of Oregon, Washington and Alaska and EPA (ORD and Region 10) have conducted coastal monitoring under EMAP/National Coastal Assessment. This sampling has been completed so far in 100 small estuaries sites in OR & WA; 30 sites in Tillamook Bay, OR; 50 sites in the Columbia River estuary; 55 sites in Puget Sound; 55 sites in South Central coastal estuaries of Alaska; 100 sites in the intertidal estuaries of OR & WA; and 100 sites in the off-shore area of OR & WA. This summer, an additional 100 sites will be sampled in small estuaries of OR & WA plus 50 sites in S.E. Alaskan estuaries. All of this data will be incorporated into the National Coastal Assessment (which will enable EPA Region 10 to answer the question posed under subobjective 2.2.2).

Strategy Highlights: Designation of Sediment Management Program in ECO; cooperative sediment management approach (using Regional Dredging Team structure) pursues interagency agreements and collaboration and focusing watershed priorities on dredging/remediation management planning and implementation in Columbia-Willamette-Snake Rivers and Puget Sound. For invasive species aspect, highlights include designation of an Invasive Species Coordinator and development of an Invasive Species strategy.

Primary Measures of Progress:

Through RDTs :

- Development of a comprehensive Regional Dredging Strategy
- Implement National Dredging Policy and National Dredging Team requirements.
- Co-chair RDT meetings (three structure levels per RDT charter).
- Revise and significantly update the *Dredged Material Evaluation Framework* using the existing Regional Sediment Evaluation Team (RSET). Revised manual will be applicable throughout the Pacific Northwest for both freshwater and marine sediments and include upland disposal as well as in-water disposal.
- Implement and expand Regional Sediment Database.
- Sponsor Sediment Disposal Sites identification studies and Management Plans and ensure periodic review.
- Facilitate connection and leveraging of participating agencies base programs and priorities for timely resolution of sediment management issues and coherent policy and technical guidance updates.

Relation to Regional Priorities:

Region 10's approach generally follows the national program, with special emphasis on the Columbia River Basin and Coeur d'Alene Basin.

Strategies	Tools & Programs	Measures & Targets
Remediate/Reduce the impact of contaminated sediments on the aquatic environment.	Foster Regional Dredging Team partnerships; revise current Dredged Material Evaluation Framework (RSET action); collaborate with state and federal partners to designate and manage disposal sites for dredged material and contaminated sediments; encourage beneficial uses of dredged material/sediments to control pollutants, enhance natural recovery, and improve habitats; implement regional sediment database and fill current data gaps.	<p># of designations of sites (MPRSA) or specification of sites (CWA) for dredged material/contaminated sediments.</p> <p># of regulatory project reviews completed [SMP-DMMP]</p> <p># of beneficial use/habitat restoration pilots and projects.</p> <p># of technical assistance projects (e.g., CERCLA, RCRA) for Region, States, Tribes, local governments.</p> <p>Completion of contaminated sediments remedy, human health, and ecological peer reviews, associated responses to comments, and technical transfer presentations.</p>
Develop and Implement an Invasive Species Control Strategy in Region 10 to reduce the rate of invasives in the region	Pesticide Program(process to allow more rapid response to invasives that results in less pesticide use); 404 program (work on eliminating invasives by insuring that IS control is included in performance standards for projects); NEPA (IS concerns addressed). NEP (include an invasive control component); NPDES (eg; Ballast water permits); EPA grants (use for IS research and control); GIS data layer development	<p>Invasive Species Control Strategy developed and implemented by 2005</p> <p>% Time reduction on emergency use exemption</p> <p>Development of Standard IS conditions</p> <p>Implementation of new NEPA IS guidance</p> <p>All grants have appropriate IS conditions</p> <p>Complete IS monitoring strategy for NEPs (with implementation)</p> <p>Outreach to potential IS grantees; # of IS grants issued</p> <p>GIS layers complete for aquatic invasive species of highest concern</p>

Objective 2.3: Enhance Science and Research. Provide and apply a sound scientific foundation to EPA's goal of clean and safe water by conducting leading-edge research and developing a better understanding and characterization of environmental outcomes under Goal 2.

Sub-objective 2.3.1: Apply the Best Available Science. By 2008, apply the best available science (e.g., tools, technologies and scientific information) to support Agency regulations and decision making for current and future environmental and human health hazards related to reducing exposure to contaminants in drinking water, fish and shellfish, and recreational waters and protecting aquatic ecosystems.

Strategies	Tools & Programs	Measures & Targets
<p>Compare different bacteriological analysis methods for health risk indication and determine potential human health risk at swimming beaches. Determine, in collaboration with states, if recommended standards are protective in colder recreational waters of the Northwest.</p>	<p>Collect bacterial samples at swimming beaches (primarily freshwater beaches) in Region 10 while evaluating potential bacterial sources (e.g., people, cattle, pets, septic systems, runoff, birds).</p>	<ul style="list-style-type: none"> • Inform decision-making about adequacy of microbiological standards as protective. Assist in source identification and strategy development for reducing exposures. • These data will be used in the NPDES program for CAFO permits and the drinking water program for building state and local microbiological analytical capabilities.
<p>Develop an accurate and inexpensive technique to establish landscape scale temperature assessments and Total Maximum Daily Loads (TMDLs).</p>	<p>The new methodology utilizes:(1) collected ground level data; (2) sampled GIS (Graphical Information System) information; and (3) remote-sensed temperature data (e.g., Forward Looking Infrared Radiometry - (FLIR)) to describe local conditions and cumulative impacts throughout a watershed.</p>	<p>Work with states and tribes to incorporate and apply this methodology into their TMDL programs.</p> <p>The Umatilla Tribe has completed the first regional case study of this methodology.</p>
<p>Assess the ecological condition of coastal waters and rivers and streams across the western United States using data collected through Western EMAP. EMAP is designed to monitor indicators of pollution and habitat condition and seek links between human-caused stressors and ecological condition. EMAP is a partnership between ORD, Region 10 and the states.</p>	<p><u>Rivers and Streams</u> - EMAP ecological data has been collected at: 50 streams sites in the Wenatchee basin, WA; 100 streams sites in Deschutes/John Day basin, OR; 50 sites in larger rivers across Idaho, plus 150 stream sites spread out across OR, ID, and WA</p> <p><u>Coastal Waters</u> - EMAP field work completed so far in 100 small estuarine sites in OR & WA; 30 sites in Tillamook Bay, OR; 50 sites in the Columbia River estuary; 55 sites in Puget Sound; 55 sites in S. Central coastal estuaries of Alaska; 100 sites in the intertidal estuaries of OR & WA; and 100 sites in the off-shore area of OR & WA.</p>	<p>Work with the states and others to use EMAP data and tools to build strong programs of aquatic ecological monitoring and assessment for rivers, streams and estuaries.</p> <p>Develop the infrastructure in the Region and in the States to implement these EMAP tools in monitoring and assessment programs.</p>

Strategies	Tools & Programs	Measures & Targets
<p>Conduct Columbia River Sediment and water contaminant survey to determine exposure routes for contaminated fish.</p>	<p>Continue with work performed during the Columbia River Basin Fish Contaminant survey. In this phase the fate and transport of chemicals which were found to pose the highest risk for fish consumers will be determined. In addition to field surveys for contaminants the strategy includes a literature review of ecological studies of toxic chemicals in Columbia River Basin. Update and expand database of toxic chemicals. (See Cross Cutting Issues)</p>	<p>Inform decision-making to assist in reducing exposure related to risks to fish consumers (in particular Native American tribes as well as beginning the dialogue on the threats to endangered salmonids in the Columbia River Basin.</p> <p>This work is one of the primary elements of the Columbia River Basin Regional Priority.</p> <p>This work will also contribute to Goal 3.</p>

Sub-objective 2.3.2: Conduct Leading-Edge Research. By 2008, conduct leading-edge, sound scientific research to support the protection of human health through the reduction of human exposure to contaminants in drinking water, fish and shellfish, and recreational waters and to support the protection of aquatic ecosystems— specifically, the quality of rivers, lakes and streams, and coastal and ocean waters.

Strategies	Tools & Programs	Measures & Targets
<p>Develop an analytical methodology for the speciation of arsenic in edible biota. Speciation-based analysis is required because the toxicity of arsenic is strongly dependent on its chemical form.</p>	<p>Collaborative study between Region 10 and NERL-Cincinnati. Current risk assessment decisions are based on "total" (inorganic and organic) arsenic analyses. Once the method is developed and the technique transferred, the Regional Laboratory will be ready to support projects requiring this technique.</p>	<p>Improve Regional capability to analyze for a variety of arsenic species. Aid in the identification of edible biota adversely affected by arsenic contamination.</p> <p>This methodology has been used in the Regional Tribal Health Strategy to provide exposure information to tribes who are concerned about risks from arsenic in seafood, e.g. Port Gamble S'kallam. It is also used to expand the capability of state water and fish contamination programs (requested by the State of Alaska).</p>

Strategies	Tools & Programs	Measures & Targets
<p>Develop a method and capability for analysis of polybrominated diphenyl ethers (PBDEs) in environmental samples-tissue, soil/sediment, and STP sludge.</p>	<p>Collect samples for a special study of environmental contamination by PBDEs. The samples will consist of river sediments collected from specific locations within the state of Washington (the Columbia River, Yakima River) and sewage sludge samples will also be obtained from waste water treatment plants (WWTP) in Richland, Washington and Yakima, Washington. PBDE congeners have been identified as environmental contaminants in several studies. They have been detected in sediments and sludge as well as in fish tissues, shell fish, and even human breast milk.</p>	<p>Expand the priority pollutant list to include PBDEs.</p> <p>The Region has begun to include PDBEs in its source identification programs (chemical waste management, environmental cleanup, and toxics inventory).</p>